



(Left) The sectioned Williamson Eagle IV aircraft camera and its remote control unit.

(Right) Smith's Husun P.4L. inverted compass, read by means of a mirror.

Simmonds Aerocessories will be represented by their associated company in France, Aerocessaires-Simmonds, who will be exhibiting the following well-known Simmonds products: elastic stop nuts; Goudime navigational instruments; cowling clips; Theed hydraulic flap controls; Wondogrip non-slip flooring; and electric and

hydraulic contents gauges.

Smith's Aircraft Instruments.—Among the wide range of instruments and accessories which Smith's are exhibiting are several new items. There is, for instance, the undercarriage position indicator, which is now being standardised in many types of aircraft. It includes a stand-by set of lamps, and is fitted with a screening device for night flying.

Again, there is the Smith remote-reading equipment, recently put on the market to meet the necessity for indicating on the instrument panel the movements of such devices as flaps, retractable undercarriages, petrol float mechanisms, and many others in which a remote indicator is necessary. It is electrically operated and consists of two units—an indicator and a transmitter joined by 5-core cable.

Thirdly, there is the Smith sensitive altimeter, which embodies a number of features making for extreme accuracy and sensitivity.

Automatic Pilot

The Smith automatic pilot will not be seen on this stand, but it is being exhibited by Jaeger Aviation S.A., who manufacture it under licence in France.

On the Smith stand will be a range of Husun compasses and navigation instruments. Among them the well-known type P.4, its new modified form P.4L. and the P.7 pattern, providing the pilot with a vertical card image. Another compass which is of particular interest is the P.4L. inverted type, in which observations are made by means of a mirror that, in some types of aircraft, may be mounted more conveniently than the compass itself.

Another item will be the Husun Mk.XII averaging sextant.

The navigation instruments of interest include the Addison-Luard course and distance calculator, the Dalton computer Mk.VII and the Bygrave position-line slide-rule.

Sperry Gyroscope Co., Ltd.—This firm will not be directly represented, but its instruments, such as artificial horizons and directional gyros, will be found in numerous aircraft of various nationalities, including the Hawker Hurricane. On the transatlantic Farman are four Sperry instruments in a special panel.



Sperry panels will also be seen on the French Air Ministry stand.

Standard Telephones and Cables, Ltd., will show representative types of their aircraft radio equipment. These will include the Standard beacon transmitter, designed for airport and similar services, and capable of sending out predetermined code signals at regular intervals governed by a chronometer. An alarm system to indicate interruption of transmission is included. The set may be used for C.W. or telephony transmissions.

Another item will be a blind-approach receiver for aircraft use in conjunction with the Lorenz system. There will also be the type R.9 direction finder and homing device, providing three services: D/F. facilities on all types of signal with both aural and visual indication; homing on broadcast stations or other signal sources; and loop reception of normal traffic signals. The well-known standard Adcock D/F. system will be exhibited; this is specially designed to be free from night effect and aircraft error and, in addition, provides non-directional reception on all types of signal.

Other apparatus on show will include a short-wave transmitter unit primarily designed to work on six pre-set frequencies; a seven-valve superheterodyne medium-wave receiver with single-dial tuning; and the well-known R.10 short-wave fighter equipment, operating on four crystal-controlled channels in the short-wave band.

Tecalemit, Ltd., will be represented by the Paris Tecalemit organisation.

The Triplex Safety Glass Co., Ltd., will be represented by their French company.

The Williamson Manufacturing Co., Ltd., will have their stand wired up so that each model in their famous range of aircraft cameras can be demonstrated in operation. The exhibits will include Eagle aircraft cameras, the hand-held P.15 type, pistol cameras, and also several types of gun camera. Perhaps the most interesting exhibit will be a sectioned model of the Eagle IV camera with its mechanism completely exposed so that the whole cycle of operations may be seen. This camera takes 18 x 24 cm. pictures on roll film, and the magazine can accommodate a 200-exposure film. Control of exposures is effected through a remote instrument which can be fixed to any convenient part of the aeroplane at any desired distance from the camera.

The Zenith Carburetter Co., Ltd., will be represented by their French company.

trol variety; automatic mixture controls and boost controls; cockpit controls; ice-warning units for induction systems; compressed-air-operated fuel pumps; pressure and depression gauges for engine test beds; and the B.H. engine-driven high-pressure pump for gun turrets, undercarriages, etc.

Imperial Airways will, as usual, have a stand indicating the scope and progress of their operations.

Lodge Plugs, Ltd., will show their various types and sizes of aircraft sparking plugs in screened and unscreened types, together with terminal and screening equipment.

D. Napier and Son, Ltd., in addition to showing the engines already mentioned, will display the new Napier air compressor, for aircraft installation.

P.B. Deviator, Ltd., are showing a working model of the P.B. automatic pilot with automatic radio D/F. control. The basis of the apparatus is a P.B. automatic rudder and elevator control governed by a stabilised gyroscope with both hydraulic drive and servo action. This is electrically coupled to a Marconi D/F. receiver with a switch unit embodying a relay whereby signals from any radio station within the wave-range of the receiver are amplified to operate by electro-magnetic influences on the gyro axis, thus ensuring automatic navigation in accordance with the signal received. It is also possible that a blind-landing attachment will be exhibited, embodying an infra-red light detector capable of super control of the apparatus independently or in parallel with the D/F. equipment.

Rotol Airscrews, Ltd., are likely to show examples of their constant-speed, full-feathering and non-feathering airscrews (hydraulic or electric operation) for engines of 800 h.p. and upwards. An example will be seen installed on the cowed Bristol Hercules sleeve-valve engine on the Bristol stand.

Short and Mason, Ltd., will have a representative display of their aircraft instruments and test apparatus. The instruments, for civil and military aircraft, will be displayed on demonstration panels. The instruments will include compasses, altigraphs, and air-speed recorders. There will be various kinds of test apparatus, and also meteorological instruments.